WO 2005/101178 PCT/IB2005/051155

CLAIMS:

5

- 1. A touch sensitive display comprising an active substrate (102, 308), wherein driving circuitry (104) for driving a pixel of said display and touch sensing circuitry (201, 304) are arranged on said active substrate (102, 308), wherein said touch sensing circuitry (201, 304) comprises at least one component with a first and a second electrode (224, 310, 408, 410, 508, 608, 610, 702, 704, 706), wherein said electrodes (224, 310, 312, 408, 410, 508, 608, 610, 702, 704, 706) are arranged to displace with respect to each other in response to a touch input.
- 2. Touch sensitive display according to claim 1, further comprising a passive substrate, wherein a pressure concentrator (204, 302) is arranged between said passive substrate (206, 306) and said first electrode (224, 310, 312) to transmit an applied force between said passive substrate (206, 306) and said touch sensing circuitry (201, 304).
- 3. Touch sensitive display according to claim 1 or 2, wherein said touch sensing circuitry (201, 304) comprises a capacitor (201, 400, 500, 600) comprising said first and second electrodes (224, 408, 410, 508, 608, 610), wherein said capacitor (201, 400, 500, 600) comprises at least one dielectric layer (402, 404, 502, 504, 602, 604) between said first and second electrodes (224, 408, 410, 508, 608, 610), wherein at least one of said dielectric layers (402, 404, 502, 504, 602, 604) comprises a recess (202, 406, 506, 606) forming a gap between said electrodes (224, 408, 410, 508, 608, 610).
 - 4. Touch sensitive display according to claim 3, wherein said capacitor (201, 400, 500, 600) also is operable as a storage capacitor in said driving circuitry.
- 5. Touch sensitive display according to any of claims 1-4, wherein a first dielectric material (502, 602, 703) with a first dielectric and mechanical characteristic and a second dielectric material (504, 604, 704) with a second dielectric and mechanical characteristic are arranged between said electrodes.

12

WO 2005/101178

5

10

15

6. Touch sensitive display according to claim 5, wherein said first dielectric layer (502) comprises a first recess (506) covering a part of an area between said first and second electrodes representing the capacitance of said capacitor, and said second dielectric layer (504) comprises a second recess (506) covering the same part of said area between said first and second electrodes, wherein said first and second recesses (506) form said gap between said electrodes.

PCT/IB2005/051155

- 7. Touch sensitive display according to any of claims 1-6, wherein said touch sensing circuitry comprises a sacrificial transistor (3O4, 700) comprising said first and second electrodes (310, 312, 702, 704, 706), wherein said sa crificial transistor (304, 700) is provided with a gap (710) between said first and second electrodes (310, 312, 702, 704, 706).
- 8. Touch sensitive display according to claim 7, wherein said sacrificial transistor (304, 700) comprises at least one of an amorphous silicon (a-Si) layer (316) and a dielectric layer (318, 703) between said first and second electrodes (310, 312, 702, 704, 706), wherein at least one of said a-Si layer (316) and said dielectric layer (318, 703) comprises a recess (710) forming said gap.
- 9. Touch sensitive display according to Claim 7 or 8, wherein said sacrificial transistor (304, 700) is a thin-film transistor (TFT).